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ABSTRACT

The purpose of this paper is threefold: to show that it is essential that language teacher training programs include courses exclusively prepared to familiarize the educator-to-be with the effective use of the technologies in the teaching/learning setting; to show how the impact of plug power in teacher education programs is best felt when the educator-to-be receives hands-on experience in the courses during their teacher training; to suggest two syllabi for use in teacher education programs that allow educators to acquire hands-on experience as well as training in applying the technologies in the teaching and learning environment. It is asserted that teacher education programs should design courses to focus exclusively on teaching teachers to use the latest and most appropriate technology effectively in the second language classroom. The syllabi for two semester-length courses are included in appendices: "Technologies for Instructional Use" and "Applications of Computers in Teaching." (Contains 28 references.) (KFT)

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ED 455 701

Plug Power: The Impact Of Technology In Teacher Education

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Abstract

With technology, the empowered language educators modify and change their methods to meet the challenges of teaching. Yet, most educators remain skeptic about technology. It is advocated that the teacher education program design courses *exclusively* to ensure the ground for a relationship between the trainee and the technology to develop.

The impact of technology on language teaching has been present for a number of years. In 1999, the Education Technology index pointed out that 58% of the public believed that the computer had improved student performance, and that 31 % of the educators believed that the computer had increased students' achievement level. With these figures in point, many language educators still remain reluctant to use the technologies in their endeavor to enhance the students' learning and their teaching methods. The reason for that may be, and in accordance with the figures shown by the Education Technology Index, is that only 10% of the educators believe that they were prepared to use technology in the teaching/learning environment. This should not be the case, especially since it is expected that the educators of today prepare the students to deal with the challenges of tomorrow. According to Wang (2000), the educators are given the responsibility to prepare the students to meet the challenge of the changing world. So, why is it that the remaining 90 percent of the educators do not feel they are prepared use the technologies? Sabieh believes that fear should not be the determining factor to influence this agent of change.

The purpose of the paper is threefold. First, it is to show that it is essential that teacher training programs include courses exclusively prepared to familiarize the educator-to-be with the effective use of the technologies in the teaching/learning setting; second, it is to show how the impact of plug power in teacher education programs is best felt when the educator-to-be receives hands-on experience in the courses during their teacher training; and third, it is to suggest two course syllabi for use in teacher education programs that allow educators-to-be to acquire hands-on experience as well as training in applying the technologies in the teaching/learning environment..

Today, educators continue to be faced with many more challenges in the teaching/learning environment. They are often met with a diverse student body in the same setting; apart from the fact that they may be from different cultural backgrounds (Wang 2000). Along with that, and in the same setting, they may have different levels of competence and different learning styles. Some of the learners may be passive while others may be active learners. Moreover, some of the students may be easily motivated; others may not be so easily motivated. Another challenge facing educators, Sabieh notes, has to do with the choice of teaching material. To what degree should the choice of material content be authentic and how should it be integrated to provide a stimulating learning environment. A third challenge, reinforced by Wang (2000), has to do with class size. Educators continuously complain about the number of learners in a class at any one time. Giving educators an ideal class size of 20 students to maximize student achievement is most often unheard of for most. That challenge goes hand-

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in-hand with the challenge of discipline and classroom management—a continuous battle Wang (2000) notes.

A more personal challenge many educators are confronted with is the challenge of being unique. Educators are continuously expected to be different than the other educators in their setting. For example, Markham (1999) points out that they are expected to relate well with the administrators, the other teachers and the students. Yet Sabieh notes that they must outshine those in their same position; they must continuously update themselves on the latest education research to modify and change their teaching methodology. They are expected to cooperate with the other educators, yet compete at the same time attempting to outshine the others. In what way does this get integrated back into a cooperative setting where the students' needs are to be met first and foremost? Markham (1999) notes that the continuous pressure of time, workload, and professional development, plus the fact that they experience very little support in their isolated classroom environment, keeps the educators feeling challenged. In short, Sabieh (2001d) believes that the educators are expected to make the challenge of change. They are expected to make changes in the curriculum, changes in the methodology and change in their roles. With the use of the technologies, Sabieh believes the educators are able to face the challenges put to them. They are able to exploit their potential through the use of the technology as a partner in their endeavor and they are able to exploit their students' potential to learn (Sabieh, 2001b; 2000a; Beechhold, 1985).

The universities are expected to provide the teacher education programs with the needed preparation for the teachers to be able to meet the challenges of the changing world. As a result the educators will be able to meet both their needs and those of their students. Through their teacher education coursework, the educator-to-be are taught to identify and understand the variables involved in the learning equation to promote effective learning. Although most teacher education programs do just that, this is not enough for the educators to overcome his skepticism of technology.

The fact is that today, technology is a common part of the teaching/learning environment and activities. The teaching methodology is modified and changed by the educators to meet the challenge of teaching with all the plug-in technologies. The use of the technologies is expected to be very much present in the day-to-day happening in the education system. However, the use of the technologies remains seen as skeptical by the educators.

Basically perceived, it may be concluded that as long as the educators remain skeptical of the technology; their level of fear in using the plug-in technologies increases. Sabieh (2000a) notes that the fear stems from the fact that educators fear loss of control within their "kingdom". The educators fear the unknown, the unfamiliar, and the uncontrollable.(Sabieh, 2001a) The educators fear the power of the technologies. For example, they fear being replaced by the computer as opposed to it being a teaching aid (Wang 2000; Hobson & Fitzjerrells, 1998; Sabieh, 1998). They fear change in the methodologies and curricula. For example, Wang (2000) notes that they fear the complication of the new approaches, the use of the equipment, the set up and the operation of the technologies in the class setting. Moreover, Wang notes they fear not being able to answer questions in relation to equipment use or keep up with the pace of the lesson because of the integration of technology into the medium. Furthermore, the educators are worried that they will not be able to keep up with the future. For example, they fear the changes taking place in the computer world. Such a fear may put extra pressure on the educators since it

promotes unrealistic expectations in the students' performance and achievement levels (Sabieh, 2000b).

Sabieh believes that the solution to overcome the fear is clear cut once the relation between the language educator and the technology is determined.

As it stands now, the goal of most Education Programs, simply put, is to create educators to understand the teaching/learning environment to promote effective learning. To do this, the educators-to-be must be able to identify the variables involved in the learning equation: The student, the teacher, the theories and conditions, the methodologies and the environment. It is important to create an educator that understands the learning theories to be able to apply them successfully in the teaching/learning environment to achieve the expected outcome for all the types of students the educator-to-be may encounter (Guild 1997; Visser, 1996). Presently, most programs do not mention technology in education as a separate entity. Most programs do not mention the introduction to technology to enhance the learning environment. For example, Hobson and Fitzjerrells (1998) note that language educators are expected to be able to successfully apply the technologies into the environment even though few have received general training and the needed time to be able to successfully apply the technologies in the teaching/learning environment.

Sabieh believes there must be a move towards integrating the "technologies" in most, if not all, Education Programs worldwide.

The educators that implemented the use the technologies in their teaching/learning environment did so due to attitudes towards the technologies and knowledge associated with its use and application. According to MacArthur and Maalouf (1991), educators used the computer in their education setting based on the attitudes, beliefs and knowledge they had about the computer; that is, they basically planned how to implement its use in the education setting to go along with their feeling of integrating it into the lesson. However, it is noted that negative reactionary attitudes, whether due to sufficient or insufficient education knowledge about the technologies, very much colors the use of the technologies in context. For example, Guild (1997) noted that eyestrain or lack of face-to-face communication with continued use of the computer may prompt educators to recommend minimum use of the technology in an elementary or preschool setting.

But such negativity, Sabieh believes, should not provide grounds for avoiding use completely of technologies in an educational setting. Being cautious is an essential step when introducing any tool in a teaching/learning environment, be it introduced at the preschool, elementary, high school or university level. By understanding the relation that exists between the technologies and the leaning equation, educators should reinforce and support their use in the teaching/learning environment. Schoolis (1999) advanced that the way the technology is used in the school setting was the responsibility of all involved in the decision making process. Moreover, it was important that the needs of the whole system are identified and the educators be given the goals and the objectives on that basis (Sabieh, 2000b). Training as well mentoring, technical support, confidence building and patience are essential parts of the whole set up (Sabieh, 2001c; Schoolis, 1999). It is important to give the educators the opportunity to explore, hands on, to ensure appropriate "play" time with the technologies to prompt attitude acceptance to use technology in the education setting (Sabieh, 2000c; 2001c; Collins, Hammond & Wellington, 1997). Collins, Hammond and Wellington (1997) believe that the educators need to see as well as feel the self-benefits of using the technology.

Leask and Pachler (1999) in their edited work, *Learning to Teach Using ICT in the Secondary School,* show how the curriculum aims to provide the newly qualified educator with the needed knowledge, training and understanding to make effective decisions in their teaching environment; they expect educators to be able to decide when, how and where to use the technology in teaching core or particular subjects with the school curriculum. They use the Initial Training National Curriculum for use of the Information and Communication Technology as a base example through out the book.

Moreover, many educational institutions are making arrangements to provide the educators with professional development training opportunities to enable to them to acquire an understanding of the relationship that exists between the implementation of the technologies in the teaching/learning setting and the learning equation that they must adhere to ensure student learning. For example, Technology Update 2001 (Staff, 2001) reviews the ideas of introducing service courses for teachers to take during the summer break with follow-up support. Accordingly such courses could be set up as intensive courses integrating theory and practice and actual hands on experience development on an IT site or in a university setting set up for role playing and simulations. This is not the only option. Opitz (1998) acknowledges the importance of creating "how to" courses for teachers to attend in the evening; however, McGillivray (2000) notes that there should be available educational technologists in the school setting to continue mentoring the teachers in the classes after the training takes place. Cooper, Poftak and Salpeter (1999) advance the development of SWAT teams as another aid for teacher development. Students along with the teachers work together to become more acquainted with the advance technologies. As the students learn the new skills they provide help to other students and teachers alike. Armstrong, Davis and Young (1996) suggest that educators join Computer Assisted Teacher Talk (CATT) session programs, where educators are shown ways the technology can be integrated into the classroom to promote learning.

Sabieh believes that these are positive attempts to remedy the present teaching/learning environment. It provides situations that encourage effective teaching opportunities. But, Sabieh strongly believes this is not what should take place solely in a post training and graduation setting. Such training should take place at the teacher education program where, as Alvarez (1998) points out, the teacher trainee must not only be trained to include the 'traditional ways' but also it should consider the use of the technologies to facilitate the teaching/learning environment.

Sabieh notes that the literature points out many examples as to how the integration of technology takes place in teacher programs; however, she notes that exclusive focus of the integration into the program to ensure effective use of the IT remains minimal. One way, according to Nicklin (1992), is to integrate the use of technology across the curriculum for the education student to become aware of the technology--in this case it would probable be the use of the computer. For example, Illinois State University's College of Education integrated technology into teacher training across the curriculum. It integrated computer technology into the course work and the research projects. The College believed that the students' would learn the advantages of computer use in the setting for use in their future career setting. The Association for the Advancement if computing in Education gave the University an award for the best integrating of technology in to the setting. Wang (2000) believes that such integration of the technology would most definitely make the education students familiar with the technology equipment and will change their attitudes towards its use.

However, Sabieh believes that the best way to integrate technology into the teaching training program is to create courses with hands-on experience.

Sabieh recommends to design courses exclusively to help build a relationship between the educator-to-be and the technologies. She believes awareness of the technologies is not enough to foster effective use of them in the teaching/learning environment. The future educators need to be able to use all the technologies effectively (Sabieh, 2001c; Wang 2000). During their university studies, they need to be prepared to be able to simultaneously practice, design, guide, implement, and support the technology in a manner that it is used to fulfill their future teaching objectives (Smithey & Hough 1999). They need to be able to not only understand the way the plug-in technologies function but also they need to be able to apply the plug-ins' use in the environment to enhance their future students' overall learning and performance. This is important, especially since Niederhauser (1996) notes that the educators need to be able to locate and access information effectively with the technologies first before they can shift the knowledge unto their students. Moreover, Jeffryes and Unger (2001) point out that it is important that the educators understand that the technologies are tools; aids to help the educators in their endeavor; the technologies are not disciplines in themselves. Accordingly, the plug-in technologies must be tied into the curricula. To do this, the curricula need to be restructured to accommodate for the different approaches an educator can use them in the teaching environment.

Sabieh advocates that it is through the development of exclusive courses that the relation between the educator and the "plug-in" technologies--the hardware--and between the educator and the material—the software—will grow to enable the application of the technologies and the material to the environment. Moreover, the development of the courses will provide the educators-to-be with sufficient hands-on experience. This will decrease or overcome whatever fear may exist in relation to the use of the technologies in the teaching/learning environment.

Sabieh advances the development of two courses to allow for such significant hands-on experience to take place. With the courses, the educators-to-be will understand that the technologies are tools. As tools, they will be, according to Jeffryes and Unger (2001), as good as the content that is tied into the curriculum under development. She entitles one course as *Technologies for Instructional Use*; it is a prerequisite for the second course, entitled *Applications of Computer in Teaching*. Sabieh developed the courses and taught the courses as a pilot on her education students. Her students included students working towards a teaching certificate, a teaching diploma, or a BA in early childhood education, math education, school counseling, English, Education of the Gifted and Education of the Handicapped. Sabieh includes the syllabi in Appendix A.

In general, the two courses expose the trainee to all the "plug-in" technologies that may be used in any learning medium. See Appendix A for the course descriptions for *Technologies for Instructional Use* and the *Applications of Computers in Teaching* courses. The *Technologies for Instructional Use* course concentrates on the plug-ins as a whole, aiding the educator-to-be with the needed arms and ammunition to carry out the battle to increase literacy and improve student achievement and performance in the overall learning/teaching environment. The *Applications of Computer in Teaching* course description is more specific to one plug-in domain. As a course, it deals within a specific domain, yet it exposes the students to the diverse and complex nature of applying overall computer in the multifaceted face of education. The two courses, however, remain challenging to both the course instructor and the educator–to–be since

it is based on showing and thinking in a realistic viewpoint or application climate in a not so realistic set up and is based on the diverse majors the students have chosen to specialize in.

In general, the courses included material that exposed the students to the operation and maintenance of each "plug-in" technology, its guidelines for use, its application in education, specifically in language learning, its relation to the educator and to the student, and its material design. By the end of the two courses, the educators-to-be were exposed to all the "plug-in" technologies. As a result, they will be better able to integrate the "plug-in" technologies into their plan lessons; they will be able to complement learning theories and conditions; they will be able to initiate activities based of language learning theories, and they will be able to meet their students' needs. In short, they will be better able to plan lessons, integrate learning theories and conditions, initiate activities based on language learning theories, and determine when, where and how effective the language teaching and learning environments are as they work to meet their students' needs in the future. See Appendix A for a few of the course objectives for the *Technologies for Instructional Use* course and the *Applications of Computer in Teaching* course. Sabieh notes that the course objectives in the two courses are expected to change depending the School of Education goals, the particular program goals and the educators' teaching/learning environment. The educators-to-be will then use the information acquired in the courses to meet the objectives of the school environment they are to work in.

To reach the course objectives, the educators-to-be must be able to identify the "plug-in" technologies. However, Sabieh believes that first and foremost, the soon-to-be educators need to understand the difference between instructional technology and information technology to be able to identify the plug-in technologies. Sabieh's *Technologies for Instructional Use* syllabus includes an introductory unit to deal with the clarification (See Appendix A). In it, she discussed the difference between instructional technology and information technology; she discussed IT in the educational setting and its role in the learning and teaching environment. Moreover, she exposed the students to the differences between the learning and instructing paradigms, ensured they understood the interrelation between learning conditions, learning activities and cognition, critical thinking, differentiating between explanatory and exploratory learning. She also classified material types into authentic, authored and created. She, then, explained her concept of plug-in technology in the course meant any equipment to be used as an aid in the teaching or learning environment that had a "plug". She identified the plug-in technologies that were to be dealt with throughout the semester. In her syllabus, Sabieh developed separate units to introduce the educators-to-be to the different plug-in technologies; the overhead projector, the audio-radio-recorder, the video-television/satellite, the computer and multimedia. In each unit, she included the technology, the characteristics of the technology, how each technology operated and was maintained. The students were able to use each technology by following the guidelines. Each was able to select material available for effective use of the technology in the teaching/learning environment. Each was able to apply it in his environment-to be. (See Appendix A for syllabi details of the two courses). For example, consider what was included in the overhead projector unit. The students were exposed to the parts and maintenance needs of the overhead projector, the use of the overhead projector, the goals and objectives for use of the OHP. Moreover, they were exposed to overhead transparency preparation guidelines, the application of its use in the Education setting, be it ELT or other disciplines, the use of the OHP from the point of view as a learner and as an educator.

The educators-to-be were also expected to plan an activity, do a project and a demonstration for each plug-in technology unit. (See Appendix B for samples of assignments, activities, projects or demonstration assignments for the two courses).

In short, the educators-to-be will be trained to be able to apply each technology in the needed educational setting: in the environment, as an instructional method, and in the content; they will be able to relate it to the educators' needs; they will be able to relate it to the student's needs; they will be able to design material for use with the technologies, and they will be able to consider the different environments, with the equipment and management designs.

There are two other important parts to the courses. Sabieh feels that students need to be given icebreakers at the beginning of each class session to depict a message about the topic to be dealt with that session or about the newness and skepticism of the subject matter. She believes it adds humor, enlightenment, outlines fears, and raises issues for thought and discussion. She believes her best icebreakers to be comic strips, but she uses headlines or articles from newspapers and magazines as well as journals (See Appendix C for examples of icebreakers she has used). A second important part of the courses that she believes is of great importance is providing the students with a reading list and guides. These should be continuously updates and changes depending on the setting, the environment and the educators- to-be (See Appendix C for some suggestions). Some of the readings she dealt with in class, but others she had the students read for added exposure on the topic at hand. She also invited the students to contribute to the reading list if they came upon material they found interesting.

The units of evaluation and course requirements for the two courses are clearly outlined for the educators-to-be. The students must know in advance how they are to be evaluated on their performance throughout the semester and what is expected of them as students in the course. For example, in the *Technologies for Instructional Use* course, the students were evaluated on six activities and ten projects and demonstrations, their class participation, and a theoretical and practical final exam, and, in the *Applications of Computer in Teaching* course, the students were evaluated on 22 assignments, six projects, their class participation, a midterm and a theoretical and final exam. There is no doubt that the courses require the educators-to-be to carry out an enormous amount of hands-on work to be evaluated for effectiveness in applying the material in the pseudo-teaching/learning environments they create to fulfill the work. (See Appendix A for the evaluation units of the two courses and Appendix B for a sample of test questions).

It is noted that the evaluation of the work is not to be assessed based on complexity or on how complex the material presented is. Sabieh believes this is an important point to consider especially when dealing with use of the computer and multimedia and its application in the education setting. Educators-to-be bring with them different mastery levels of computer use, and it cannot be expected that they all develop mastery equally. The evaluation of the work is to be based on whether or not the educators-to-be successfully carried out the appropriate task of the assignment, whether they were able to show application with in the field. This is what was done in the pilot study.

In terms of course requirements, the educators-to-be need to know what is expected of them through out the semester. In general, on the syllabi, it is stated that their attendance was required; their assignments, activities and projects were to be handed in on time; the demonstrations were to be carried out at the appointed times; all the technologies, material and software must be used and mastered for use in the educational setting, and, wherever possible, all

equipment and material must be incorporated in their work (See Appendix A for the course requirements of the two courses).

As a whole, the result of the training, Sabieh advocates, will ensure that the educators-to-be are prepared to integrate technology effectively into the curriculum and to use the new teaching methods and learning styles enabled by the technology.

In conclusion, in having the two courses, *Technologies for Instructional Use* and *Applications of Computer in Teaching*, as part of the educators-to-be training program, Sabieh believes the program creates empowered language educators. With the technologies, the educators-to-be modify and change their methods to meet the challenges of the teaching and learning environments. They are integrating a powerful tool into the learning equation that will enable them to restructure the existing learning environments to accommodate technologies. They are able to construct new curricula to integrate the plug-in technologies as opposed to adding, modifying, restructuring and accommodating the technologies. That, Sabieh believes, is what increases the educators' frustration and fear of integrating the technology into the setting.

In short, the newly created educators will be able to meet the challenges of the new millennium, and they, in turn, will be able to guide their students to meet the new challenges effectively.

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Appendix A

Syllabi for the *Technologies For Instructional Use* Course and for the *Applications of Computers in Teaching* Course

The following two syllabi are the ones Sabieh designed for the two courses: The *Technologies for Instructional Use* Course and for the *Applications of Computers in Teaching* Course recommended for use in Education Programs. These were the syllabi used in the pilot study.

TECHNOLOGIES FOR INSTRUCTIONAL USE © Sabieh 2001
SEMESTER - ACADEMIC YEAR
SYLLABUS

Instructor: Dr. Christine Sabieh
Office:
Office Hours:
Class Hours:

COURSE READING

- Text and articles to be assigned with each unit. (See Appendix C)
- Manuals and Guides for the different plug-in technologies
- Handouts

COURSE DESCRIPTION

The focus of the course will be on the practical application of "plug-in" technologies in education. Students will be exposed to the overhead projector, the audio-visual equipment and the computer. They will learn how each plug-in technology operates and is maintained; they will know how to use each technology and what support material is needed to use the technology in the teaching and learning environment. The theoretical part of the course will be limited to the basic knowledge needed to enable students to explore, hands on, the plug-in equipment for use and application within the teaching/learning environment. Issues related to each plug-in technology will be discussed.

COURSE OBJECTIVES (Note: These are just a few objectives)

By the end of the course, students will be expected

1. to manage, instruct, integrate and communicate using the plug-in technologies in the teaching/learning environment.
2. to plan lessons and activities with the appropriate use of each plug-in technology.
3. to understand the significance of teacher training in preparing educators to effectively use the plug-in technologies as aids to enhance the teaching and learning environments, and
4. to assess himself on the different aspects of the course as a means to self improvement

COURSE OUTLINE

Unit 1: Understanding Instructional Technology
Understanding Information Technology
Unit 2: Using IT in the Educational Setting
Unit 3: Role of IT in Learning & Teaching
Understanding the Learning vs Instructing paradigms
Learning Conditions, Learning activities and cognition
Critical thinking
Explanatory and exploratory learning
Effectiveness of IT in Education
Unit 4: The Plug-in Technologies identified
Material for use
Authored Material
Authentic Types
Created Material
Unit 5: Overhead Projector
Parts & Maintenance needs
Use
Defined Goals & Objectives
Operational Guidelines to consider
Transparency Preparation Guidelines
Technical support
Application of use in Education -- In ELT; In other disciplines
(THIS DEPENDS ON STUDENTS IN CLASS)
OHP & the educator
OHP & the learner
Activity 1 (SEE SAMPLE 1, Appendix B)
Project 1 (SEE SAMPLE 2, Appendix B)
Demonstration 1: Use of OHP & Transparency (SEE SAMPLE 3, Appendix B)
Unit 6: Audio-/Radio/ Cassette Recorder
The cassette tape
Parts & Maintenance needs
Use
Defined Goals & Objectives
Operational Guidelines to consider
Technical support
Application of use in Education -- In ELT; In other disciplines
Material from Different Genres: Advantages & disadvantages
Basic Skill Building
Communicative Approach
Identifying possible activities types
Process: Pre-During-Post
Its relation to the educator
Its relation to the learner
Activity 2 (SEE SAMPLE 4, Appendix B)

Project 2 (SEE SAMPLE 5, Appendix B)
Demonstration 2

Unit 7: Video
TV / Satellite
Parts & Maintenance needs
Use
Defined Goals & Objectives
Operational Guidelines to consider
Technical support
Application of use in Education - In ELT; In other disciplines
Authentic material vs Authenticity of material on Video
Process: Three phases
Exploded Viewing
Planning Worksheet/ Activities
Its relation to the educator
Its relation to the learner
Activity 3 & 4
Project 3 & 4
Demonstration 3 & 4

Unit 7: Brief Introduction to Computer
Parts & Maintenance needs
Choice of Hardware
Choice of Software
Use
Defined Goals & Objectives
Operational Guidelines to consider
Technical support
Application of use in Education - In ELT; In other disciplines
Methodology
Activity types
Process: Pre-During-Post
Its relation to the educator
Its relation to student
Activity 5
Project 5
Demonstration 5

Unit 8: Brief introduction to Multimedia
Operational guidelines
Internet / Networking / Distance Learning: A Global Issue
Demonstrations of use
Activity 6 (SEE SAMPLE 6, Appendix B)

Unit 9: Integration of the Plug-in technologies
Advantage & Disadvantage of integration
Conditions, Needs and the Teaching/Learning Environment
Evaluation of use

Final Project 6 (SEE SAMPLE 7, Appendix B)
Final Demonstration 6 (SEE SAMPLE 8, Appendix B)

COURSE EVALUATION

Activities (6)	20%
Projects & Demonstrations (10)	50%
Final Exam (Theory)	10%
(Practical – Project & Demonstration # 6)	15%
Participation	5%

COURSE REQUIREMENTS
Attendance is required.
Activities & Projects are to be handed in on time.
Demonstrations are to be carried out at appointed times.
All equipment must be used and mastered for use in the educational setting.
Final Demonstration and Final Exam must incorporate all equipment

APPLICATIONS OF COMPUTER IN TEACHING © 2001 Sabieh
SEMESTER – ACADEMIC YEAR
SYLLABUS

Instructor: Dr. Christine Sabieh
Office:
Office Hours:
Classhours:
Labhours:

COURSE READING

- Text and articles to be assigned with each unit. (See Appendix C)
- Keating, A.B. & Hargitai, J. (1999). The Wired Professor. NY: New York University Press.
- Reference Manuals or Text on Computer Software programs, Internet, Web Page, etc ...(I RECOMMEND TEACH YOURSELF VISUALLY SERIES & THE DUMMIES SERIES)
- Handouts

COURSE DESCRIPTION
The focus on the course will be on the implications of computer application in the education environment. The students will be introduced to the hardware and the software application components of a computer as tools to aid to enhance the teaching/learning medium. Students will learn to differentiate between information technology and instructional technology. They will learn about computer networks and the WWW. They will be exposed to content and content-free

software, CD ROMs, web pages, and the Internet where they will be expected to evaluate and produce materials to enhance the teaching/learning environment. Issues such as morals, ethics, philosophy, security, plagiarism, health, safety, evaluation, teacher and student roles, instructional methods, special needs, distance learning, and self-assessment will also be an integral part of the course. The theoretical part of the course will be limited to the basic knowledge needed to enable students to explore, hands on, the equipment and the applications within the teaching/learning environment.

COURSE OBJECTIVES (note: these are just a few objectives)
By the end of the course, students will be expected

1. to manage, instruct, integrate and communicate using the computer in the teaching/learning environment
2. to plan lessons and activities with the appropriate computer application
3. to create, present and evaluate content software, content-free software & web pages
4. to use email, listserv, search engines and the other internet advantages to process, construct, & enhance material acquisition
5. to understand the significance of teacher training in preparing educators to effectively use the tools as aids to enhance the teaching and learning environments, and
6. to assess himself on the different aspects of the course as a means to self improvement

COURSE OUTLINE

Unit 1. The Computer
Assignment 1 (SEE SAMPLE 9, Appendix B)
Unit 2. The Software possibilities
Unit 3. The communication area
Unit 4. Placing IT within the teaching & learning situation.
Assignment 2 & 3
Unit 5. Who must get involved when considering its use in education?
Policy makers, administrators, educators, IT experts, Information technologist, parents, students
Assignment 4
Unit 6. Computer ethics
Protection of school, child, etc....
Protection from parents, students, hardware & software dealers, Internet, etc....
Assignment 5 (SEE SAMPLE 10, Appendix B)
Unit 7. The points to consider when using the computer:
Crimes, hacking, viruses, piracy, security, copyrights, plagiarism, etc...
Assignment 6
Unit 8. Placing the computer in the education setting: Class & Lab Designs, layouts & set ups
Assignment 7. (SEE SAMPLE 11, Appendix B)
Unit 9. The hardware: Input, Processing, Output
Unit 10. The networks: LAN & WAN

Unit 11. Health & safety
Unit 12. The software: Content & Content Free Software
Orientation of use
Assignment 8 (SEE SAMPLE 12, Appendix B)
Unit 13. The Role of the Educator
Unit 14. The Role of the Learner
Unit 15. Computer Assistance and Learning Theories and Conditions
Unit 16. Computer Assistance and Methodology
Computer Assistance & Students with Special needs
Computer assistance across curriculum courses
Unit 17. Limitations of Computer Assistance Learning
Unit 15. Word Processor & Microsoft WORD
Sample: Lesson Planning - Pre, During, Post computer work(SEE SAMPLE 13, Appendix B)
Assignment 9 (SEE SAMPLE 13, Appendix B)
Project 1
Unit 15. PowerPoint
Assessment of WP & PowerPoint Projects
Project 2 (SEE SAMPLE 14, Appendix B)
Unit 16. Spreadsheets
Project 3 (SEE SAMPLE 15, Appendix B)
Unit 17. Database
Project 3 & 4
Unit 18. Content Software
Evaluation of software
Assignment 10 & 11.
Assess Chosen software/CD ROM programs
Project 5
Unit 19. Drill & Practice
Tutor
Games
Simulations
Games
Assignment 12, 13, 14, 15, 16
Assignment 17 (SEE SAMPLE 16, Appendix B)
Unit 20. The Web
Hypertext VS Hypermedia
Multimedia
World wide net & Internet in the education setting
Assignment 18
Sites, Search Engines, Listserv, Bulletin Boards, Chat,
Assignment 19 (SEE SAMPLE 17, Appendix B)
The Web page
Project 6 (SEE SAMPLE 18, Appendix B)
Unit 21. Distance Education

The virtual classroom
Assignment 20.
Unit 22. Evaluating your competence
Assignment 21 (SEE SAMPLE 19, Appendix B)
Becoming an advocate of CAL
Assignment 22

COURSE EVALUATION

Assignments (22)	50%	
Projects (6)	20%	
Midterm	10%	(SEE SAMPLE 20
Final Exam (Theory & Practical)	15%	FOR EXAM QUESTIONS, Appendix B)
Participation	5%	

COURSE REQUIREMENTS
Attendance is required.
Assignments & Projects are to be handed in on time.
Demonstrations are to be carried out at appointed times.
All software must be used and mastered for use in the educational setting.

Appendix B

A Few Samples of Work Assigned to Students in the *Technologies For Instructional Use* Course

and for the *Applications of Computers in Teaching* Course

Appendix B contains a few samples of activities, projects & demonstration, assignments recommended to be done during the lab, class and home setting. The samples also include lesson planning, test questions, evaluation and checklists. These samples were designed for use in the pilot study.

SAMPLE 1: Example of Activity 1 for overhead projector unit
Suggest three ways an educator can use the OHP in an educational setting.
Suggest three ways a student can use the OHP in a learning situation.

SAMPLE 2: Example of Project 1 for overhead project unit
Create a presentation for your Grade 1 students.

1. Identify the topic, the goal(s) and identify the objective(s) of using the OHP to enhance the students learning.
2. Design the transparencies.
3. Demonstrate

SAMPLE 3. Example of Demonstration 1 for overhead project unit
Design two transparencies for use on the OHP.

- Follow the guidelines to design your transparencies.
- Vary the information you put on your transparencies: words, phrases, figures, graphs, tables, pictures

Demonstrate use of OHP and present the transparencies.

SAMPLE 4: Example of Activity 2 for Audio unit

- Consider the different types of Genre discussed.
  List one more advantage and disadvantage for each
- Create a learning objective for a 5th grade science class. Compare the effect of using authentic material as opposed to authored and created material on the student achieving the set objective.
  Be ready to present the different material using the radio or the cassette recorder in class to defend your rationale.

SAMPLE 5: Example of Project 2 for Audio unit

Plan a 10-minute lesson for grade 7 ESL students. Your concentration that day is to improve their listening and speaking skills.
Create a detailed lesson plan integrating the audio equipment and material you would use.
Be ready to teach the lesson and conduct the activities so that we evaluate the effectiveness of the whole teaching/ learning process using the information from the unit.
Make sure the lesson includes both authentic and created material.

SAMPLE 6: Example of Activity 6 for Internet use

Send an email to your instructor. In it, attach a document file.

- Make a list of the pros and cons of this course. Save it as a document file.
- In email form, answer the following question:
  Do you feel you are able to use the "plug-in" technologies with confidence?
  Discuss your rationale and provide examples based on the work you did this semester.
  Attach the document file to your email as support for your rationale.

SAMPLE 7: Example of Final Project 6

Using all the "plug-in technologies you were exposed to this semester, create a 35 minute lesson for students.

- Decide which grade you are to teach. Decide on the subject matter. Decide on the goals and the objectives of the lesson.
- Plan the lesson in detail; plan the teaching material; plan the activities.
- Identify the technology you will use; explain the purpose of each technologies' use in relation to your set lesson objectives.
- Discuss in what way you believe each of the technologies you will use will enable you to enhance either your teaching or the student's learning process.
- Send the whole project by email.

SAMPLE 8: Example of Final Demonstration 6

- Demonstrate Project 6 to the education class. Use the education students in class as actual students to implement the lesson as you planned it.
- Evaluate your lesson after you demonstrated it.
- In a period of 10 minutes, orally, explain what you feel you would change to make it more effective the material and the use of the technology more effective.

SAMPLE 9: Example of Assignment 1
In one paragraph, describe your level of experience with computers.

- how have you used the computer? What computer programs have you used? In what way have your used them?
- do you consider yourself a new computer user, an effective user or a confident user? Do you consider yourself ready to use the computer in the education environment?

In a second paragraph, list or describe things you would like to learn in this course. What educational outcomes do you expect from this course?

In a third paragraph, describe a situation where you have observed a computer being used appropriately (well) or inappropriately (bad) in a classroom.

Send your answer by email to me.

SAMPLE 10: Example of Assignment 5
Consider the issue of protection when using Multimedia technology in a school setting.
Assume you are the administrator of an elementary school.
Create a policy statement that

- informs parents and students about the school's position on the use of the computer and the internet in education
- informs them how the school will protect their children
- indicates why the technology will be used, and
- how the technology will be used

Consider who should sign this letter to protect all the parties involved.

SAMPLE 11. Example of Assignment 7
Design a computer for a child. The child could be in preschool, grade 1 or 2.
Build a model of the equipment to support your rationale.
Be able to explain your model and defend your rationale.

SAMPLE 12. Example For Assignment 8
Read the following checklist. Put a check next to the item that you are able to do.
__Opening a document
__Save document on floppy .
__Print
__Page set up

__Header/footer
__Enter text
__Select text
__Format text, par, space, font ...
__Move text
__Use spell check
__Grammar check
__Copy, cut, paste text within file & across other files
__Pagination
__Insert table, picture, diagram
__Power point presentation
__Using the mouse
__Bullets/numbers
__Split page

SAMPLE 13: Example of a handout to show Sample of Lesson Planning - Pre, During, Post computer work using the word processor—using Microsoft WORD

Presentation of lesson plan for word processor

Objective: To practice description
To practice subject-verb agreement
To practice pronoun use
Grade: 3-4
Time: 60 minutes
Equipment needed: HARDWARE: computer / student or /group
SOFTWARE: WP program
Computer knowledge needed:

- basic typing skills, upper/lower case letters
- Delete, insert, edit
- Save text, cut, copy, paste
- Print
- Save on diskette

Procedure: Pre-computer work

- Previous classes set the stage for today's activity.
- List of vocabulary words to describe self. E.g. The opposites: Tall/short, thin/fat, talkative/ quiet, pretty/handsome/ugly, friendly/ distant, big/small, ...
- List of common words. E.g. Family, father,...
- List of sports. E.g. Football, ballet,
- Subject-verb agreement explanation and exercises

Computer work:

1. Start computer, locate file document,
2. Read instructions & text provided.

a. Read the following passage about Christine.

My name is Chrisitne. I am seven years old. I come from America. I live at home with my family: my mother, father, sister and brother. We have two pets: a dog and a cat. I like to do a lot of things. I like to swim, paint, and play with dolls. I am in grade 2. I am a big girl because I eat all my vegetable and fruit. I love to drink apple juice. .....

b. Now change the words or the details in the passage to describe yourself instead of Christine

My name is Christine. I am seven years old. I come from America. I live at home with my family: my mother, father, sister and brother. We have two pets: a dog and a cat. I like to do a lot of things. I like to swim, paint, and play with dolls. I am in grade 2. I am a big girl because I eat all my vegetable and fruit. I love to drink apple juice. .....

c. Copy and paste the passage below. Read the passage and eliminate the name this time. Using pronouns, change them from "I" to "he or she". Check to make sure there is correct subject-verb agreement.
Check the punctuation.

d. Save your work on a diskette. Print a copy.

Post computer:

- pin up the activity on the board for the other students to read and guess who the student is.
- Give your work a code (number 1)
- Go around the class reading the students' descriptive work. Make a list with the codes for each work. Read and try and identify each student.
- Point out any spelling, word mistake, s/v agreement, punctuation....
- Edit your work.

Homework: In a descriptive paragraph, choose a famous person and describe him.

SAMPLE 13: Example for Assignment 9:
Compare writing before using a word processor to writing or working with a word processor
When is its use positive for children to use?
Why is it positive?
How would you use it in the classroom if you only had one, a few or one for each student?

SAMPLE 14: Example for Project 2

- Using PowerPoint, create a topic presentation to inform 5 year old students about the importance of a proper diet. Presentation should not take more than 5 minutes of class time.
- Create two activities to follow the presentation. Use Microsoft Word.

- Present it to the class

Checklist for PowerPoint:

- 6 x 6 rule: 6 lines per slide 6 words per line
- font: smaller displays require large font distance from diplay matters
- font size: 60 for title 48 for main point 36 for sub point
- font type: easy to read
- color: use effectively high contrast color
- parallel development
- no noise
- use to reinforce information

SAMPLE 15: Example for Project 3
Assume you are 10th Grade History teacher.
You are in the process of evaluating your students' performance this semester.

- Give five students an identity.
- Prepare a spreadsheet of your students' end of semester grades
- Decide on a grade distribution to make up a course grade out of 100 (Grades should appear in % format)

Then, draw different charts for each grade distribution during the semester and label each properly

SAMPLE 16: Example for Assignment 17
Decide on an age group of students.
Consider the type of software available for the students.

Create a list of various content activity type software you would recommend for use in an education setting. State the purpose of each as you would use it in the setting.
Your list should contain at least two for each type.

SAMPLE 17: Example for Assignment 19

Review two World Wide Web sites in a way that would be suitable for publication in a journal for teachers. The style that you use should be brief and informative.

Looking at Web Site One: Choose a web site that has material that would be useful to you as a teaching professional. This may be a teaching journal or a curriculum resource or similar ...
Looking at Web Site Two: Choose a web site that has material that would be useful to your students in a classroom. This may be a school site, a library, a museum or similar educational site.
To hand in:

- describe the contents of the sites.
- describe what attracted you to the sites.
- List 3 ways you could use each site to enhance your teaching and your students' learning.

Send this information as an attachment to me informing me that you did the assignment and that you have attached the homework.
SAMPLE 18: Example for Project 6.
Following the guideline "building a website" create a website of your choice.
You choose the topic.
Decide on the purpose of the site.

SAMPLE 19: Example for Assignment 21
Read the following questions.
Put a "check" if your answer is "yes" and an "X".
If your answer is "no", state the reason "why" to your answer "no".
Are you able to operate
the plug-in equipment: LIST ALL THE EQUIPMENT
the hardware
the software (LIST ALL THE SOFTWARE YOU TAUGHT)
Are you able to relate the technology to the teaching environment?
Are you able to relate the technology to the learning environment?
Can you write up goals and objects to integrate the use of technology in education?
Can you guide students in the use of technology?
Can you use the technology to assess the students learning?
Can you evaluate suitability of software for students use?
Can you teach the students the needed knowledge to use the equipment in the setting?
Can you use the terminology?
ETC...

SAMPLE 20 Example of possible EXAM questions

THEORY QUESTIONS

- As students and as educators, we tend to continuously take material off the Internet. Do you think this should be considered ethical? Why? Why not? Provide examples to support your view.
- You are a teacher working at a pre-school. You want to introduce the computer into your curriculum.

A. What would you do, say, argue... to the administrator to convince him computer has a place in the teaching and learning situation?
B. What would you say to convince John's (a student) parents to allow John to use the computer to help him in his learning?
C. John's parents are still not convinced. What would you do to show them that John would be guaranteed a learning medium?

- A. Explain how play is interrelated to computer- assisted learning.

B. Create a complete lesson plan integrating the element of play within a computer assisted learning environment.
C. How would you evaluate learning in this medium? State the criteria you would use to evaluate the students' learning Decide on what computer program you would

use, create a print out to show how you would evaluate the learning. Provide me with an interpretation of your print out.

PRACTICAL QUESTIONS

1. You are a Preschool or elementary teacher. (you decide the students' level) Read the "Charlie Brown" comic strip # 1. Based on the message, create a teaching situation in which you are to present to your students a lesson on the subject. Using the computer and your diskette, plan the lesson…provide the details. Then, create the actual power point presentation.

2.You are an elementary teacher. (you decide your students' level) Read Barney's book of trains. Based on your reading decide what objective could be derived using such material. Develop "Tasks' to teach your students the objective you have decided upon. Create a teaching situation in which you develop the tasks using ACCESS. Make sure the tasks you design are promoting learning. Using the computer and your diskette, plan the lesson…provide the details. Then, create the actual tasks that the student will have to carry out.

3. You are a counselor or elementary teacher. (you decide your students' level) Read Big Birds Busy Day. Based on your reading decide what objective could be derived using such material. The students have just started to read, Develop "Tasks' to teach your students the objective you have decided upon. Decide how you are to evaluate your tasks to be able to measure the learning aspect of play. You have 2 students in your class that are failing students; 3 of the students there are day dreamers. One of the student is a high achiever. Make sure the tasks you design are promoting learning and can be evaluated to measure to see if the students are learning. Use Excel and create a database. Briefly summarize the lesson plan Then, create the actual database and show the interpretation of the results. What does it tell us about the students?

Appendix C

Examples of Icebreakers and a Suggested Reading List for Students

Appendix C contains a few samples of Icebreakers Sabieh used in the Pilot study and the suggested list of readings.

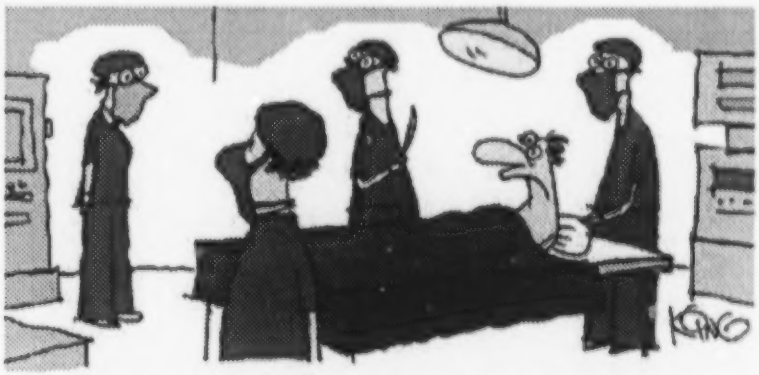
Ice Breakers

email message - Win a trip for two to Sharm el Skeikh!
- Follow up – please reply to confirm!

Article - MIT says a hacker altered class grades. D. Abel, Globe Correspondent, 3/9/2000

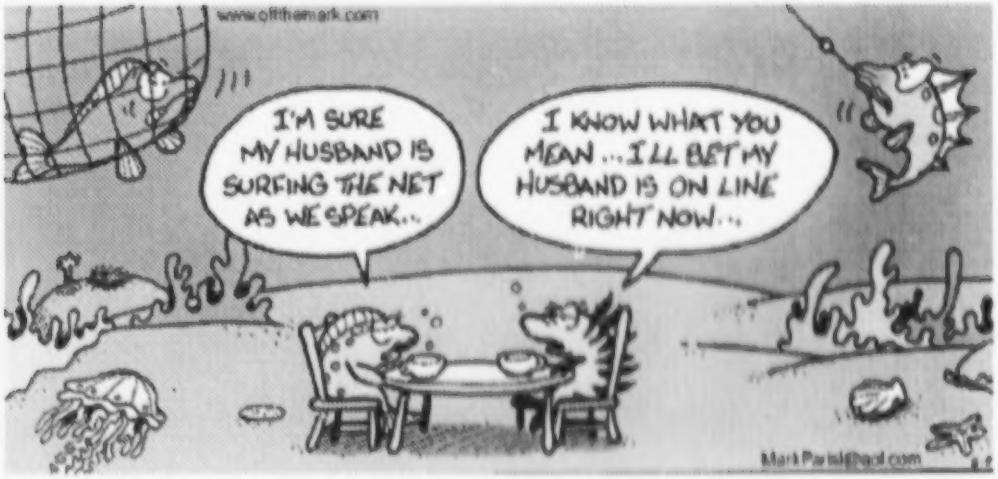
Parent magazine - Parents.com Keep Kids Safe in Cyberspace. Feb. 2000

Mount Holyoke Finds that Web Publishing Improves Class Instruction – F. Olsen. The Chronicle of Higher Education. March 7, 2000



"Nurse, get on the internet, go to SURGERY.COM, scroll down and click on the 'Are you totally lost?' icon."

BEST COPY AVAILABLE


www.offthemark.com
I'M SURE MY HUSBAND IS SURFING THE NET AS WE SPEAK...
I KNOW WHAT YOU MEAN ...I'LL BET MY HUSBAND IS ON LINE RIGHT NOW...
Mark Parisi@aol.com

Suggested reading list
(Note: reading material is to be updated constantly)

Allan, M. (1985). *Teaching English with Video*. Essex: Longman

Barley, A. (1990). *Making the Most Out of Audio*. London: CILT.

Beck, J. A. & Wynn, H. C. (1998). Technology in teacher education: Progress along the continuum. ERIC Digest ED424212 98. www.ed.gov/databases/ERIC

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BEST COPY AVAILABLE

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Kozma, R. B. & Johnston, J. (1991). The technological revolution comes to the classroom. *Change*, 23 (1), 10-23.

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McCarthy, K. (2001, Jan-Feb). Tech tots. *Psychology Today*, 34 (1), 20.

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